

(No Model.)

E. WOODWARD.
PEGGING JACK.

No. 462,937.

Patented Nov. 10, 1891.

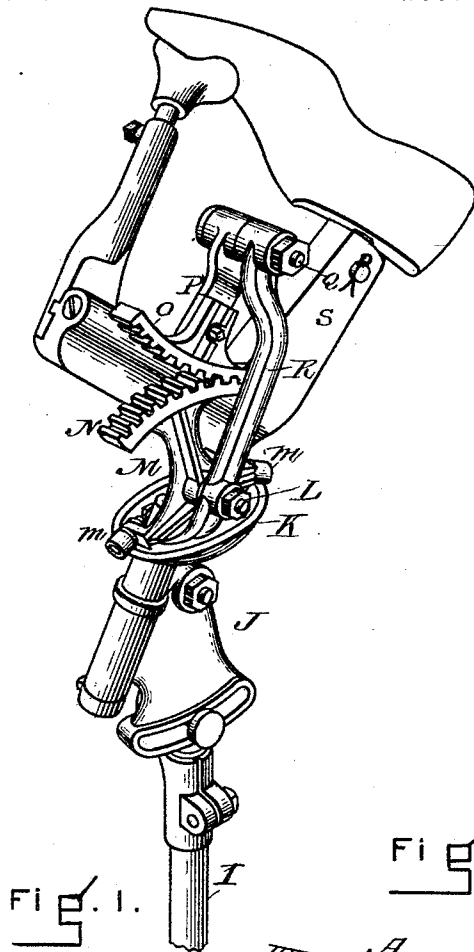


FIG. 1.

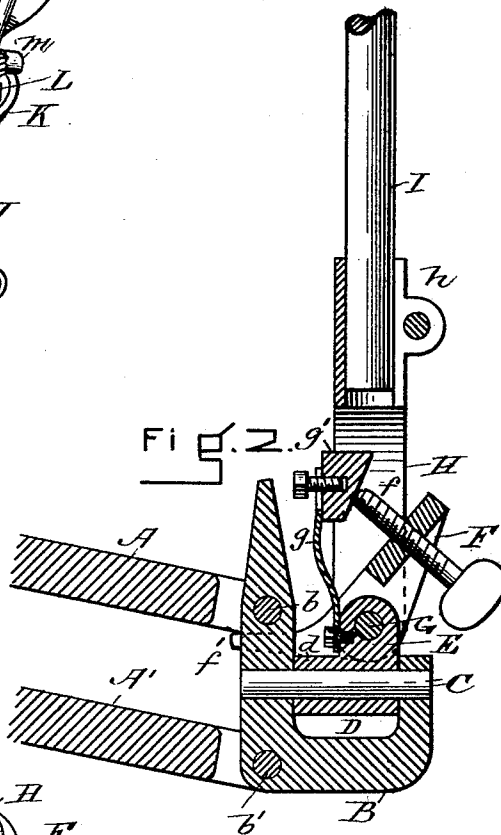
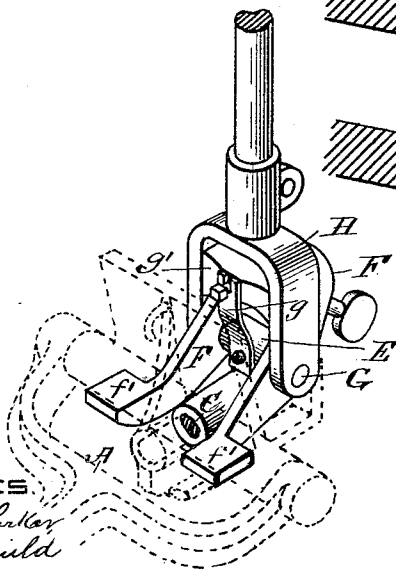


FIG. 2.



WITNESSES
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PEGGING-JACK.

SPECIFICATION forming part of Letters Patent No. 462,937, dated November 10, 1891.

Application filed June 29, 1891. Serial No. 397,928. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS WOODWARD, of Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Jacks, of which the following is a specification.

My improvement relates more especially to jacks for use in tacking-machines; but my jack is adapted to other uses.

It consists, first, in a self-righting mechanism whereby the jack will always be brought in a normal position, substantially vertical, when left to itself, and, second, in a means for presenting the last to the tack at right angles to the driver.

In the drawings, Figure 1 shows a jack embodying my invention in elevation. Fig. 2 is a section showing in detail the self-righting mechanism.

So much of the jack-supporting mechanism as is not herein described will be fully understood by reference to an application, Serial No. 377,373, filed by me in the United States Patent Office on or about January 10, 1891.

Upon the ends of the two parallel connecting-arms A A', fully shown and described in that application, the bearing-link B is hinged by the pins b b'. This bearing-link carries a pin C at right angles to the pins b b', which holds in place a swivel-block d, containing two bearings D and E at right angles to each other.

F is a yoke-piece which straddles the bearing E and is held in place by the pin G, which passes through both it and the bearing-link B, and also passes through both ends of the socket-carrying yoke H. It will be seen that the yoke H, and consequently the jack which is supported in its socket, is thus capable of two motions at right angles to each other—one about the pivot C and the other about the pivot G. This part of my invention relates to causing a jack mounted on a universal joint—such as, for example, that above described—to always return to a substantially vertical position when released by the operative, and a convenient means for accomplishing that result is described as follows:

There is mounted on the bearing E a spring g, carrying the block g', which bears against the adjusting-screw f, mounted in the cross-bar of the yoke-piece F. By means of this

adjusting-screw the exact normal position of the jack is regulated. The toes f' f' of the yoke-piece F are elongated, so that they lie under the pin b. By this means any rotation of the parts about the axis C will cause a corresponding rotation of the yoke-piece F about the axis G for the reason that the bar b acts as a stop or bearing, against which one of the toes f' of the piece F will strike as soon as it has turned sufficiently about the axis C, and any further motion of the parts about the axis C will cause the bar b, acting through the toe f' in contact with it, to pull the yoke-piece F over against the force of the spring g. This is a convenient form of construction, because one spring g is used to control the position of the jack in relation to both its axes C and G.

In the socket h of the socket-carrying yoke H is mounted the rod I, upon the top of which is mounted the cam-carrier J. I prefer to make this cam-carrier of the shape shown, which is substantially the shape described in my application above referred to, because it provides for various adjustments which I find convenient; but this portion of my invention relates entirely to the combination upon the top of a connecting-rod, like connecting-rod I, of a spherical cam K, above which is mounted the crank-shaft L, carrying, preferably at right angles, a crank M, two arms of which carry cam-rollers m, which bear upon the surface of the cam, thus giving to the third arm an oscillating motion as the crank is rotated in contact with the surface of the cam. The purpose of this oscillating motion is to enable the operative to present the surface to be tacked at as nearly right angles to the driver as possible, and to that end I so mount the jack in connection with the right-angled crank that it will move with the crank; and to the end that the mechanism may be as condensed in size as possible I prefer the method of mounting the jack in connection with this crank shown in the drawings, in which the third arm carries a segment-gear N, which meshes into a second gear O on the end of a rocker-arm P. This rocker-arm hangs from a shaft Q, journaled in the top of a supporting-rod R, in the lower part of which is journaled the shaft L. This supporting-rod is mounted on top of a stud which sets into the socket T, in which it turns, so as to steady

the last-support. The arm P also carries a last-support S of ordinary construction.

It is evident that where the last-holder is to be moved about an axis, as is the case in the class of machines to which I refer, the more nearly the center of motion comes on a level with the part of the last to be tacked the more nearly can this object be accomplished. By the mechanism above described the center about which the last is turned is brought to the point Q within a few inches from the sole of the last, and moreover by the crank and cam mechanism referred to the last can be made to change position in the manner required. It is also evident that the crank and cam mechanism are the essential parts of this combination of devices, and that the gears, while useful for the purpose of allowing the cam and other parts to be made smaller, and consequently of more convenient size, are not essential to the result above described, which has never been obtained, so far as I know, in any other jack—namely, the swinging of a last on a horizontal axis which is mounted upon a substantially vertical axis in connection with a cam like that above described.

What I claim as my invention is—

1. The jack-supporting device above described, mounted upon a universal joint, in combination with the yoke-piece F, journaled upon one of the axes of said joint, the spring g, and cross-bar b, said spring and said cross-bar being suitably mounted and located in proximity with the said yoke-piece F, whereby the position and movement of said yoke-piece about its axis are controlled, all as set forth.

2. In a jack-support, the bearing-link B, carrying the cross-bar b and the pin C, the swivel-block d, also journaled upon said pin C and carrying a second pin G at right angles thereto, upon which is mounted the jack-supporting yoke H, and the yoke-piece F, also journaled upon said pin G, provided with toes f', located in close proximity to said cross-bar b, in combination with means, substantially as described, whereby said parts are normally kept in a predetermined position by a yielding pressure, as set forth.

3. The jack-support above described, carrying the spherical cam K, upon which is mounted the crank-piece M, carrying the gear N, and a second gear O, hanging from support Q and carrying the last-support S, as set forth.

4. The jack above described, consisting of a suitable jack-support on which is mounted a stationary spherical cam, in combination with a last-support and its supporting-frame consisting of a substantially vertical rotary stud socketed below said cam and provided with an extension above said cam, a right-angled crank fulcrumed upon said extension, said crank resting upon and its position being controlled by said cam, and said last-support being pivotally mounted upon said frame and adapted to be turned about its axis by said cam, as set forth.

In testimony whereof I have hereunto subscribed my name this 25th day of June, A. D. 1891.

ERASTUS WOODWARD.

Witnesses:

GEORGE O. G. COALE,
EVA A. GUILD.